

**REMARKS**

Claims 1 – 47 are pending in the application.

***Claim Rejections – 35 USC 102***

In this section of the official action, Claims 1 – 15, 40 – 41, and 43 – 47 were rejected under 35 USC 102(e) as being unpatentable over Gadh U.S. Patent 6,629,065. Favorable reconsideration of this rejection in view of the above amendments is respectfully requested since, as will be shown below, Gadh fails to disclose a virtual object "having at least one docking location defined within said internal coordinate system, said docking position being defined for at least one of another object and another object type as a default location when said another object is brought into association with said virtual object" (claim 1 of this application). Such a docking position is described in the application as originally filed, in the description of preferred embodiments, in the docking section, on page 32: " Preferred positions or docking positions may be established on a first object or associated therewith, for locating second objects thereat. Such preferred positions may be relative positions with respect to the first object, whose locations are defined using the associated relative positioning mechanism of the first object. These docking locations may be established as anchor points, where an anchor point is *a default location* for locating of other objects thereat. Thus, another object that is dragged-and-dropped to the vicinity of such an anchor position, may snap into the anchor position, and associate itself with the first object. Alternatively the other object may be selected, and then the user is offered the possibility of establishing a positional relationship with the first object. Upon selecting the first object, the other object automatically docks at the

docking position or anchor position of the first object " Gadh rather discloses drag and drop type cursor or mouse based positioning of the objects in relation to each other.

Thus Fig. 4 of Gadh shows selection of an object using a mouse or like device, dragging of the object and placing of the object on another object. No docking positions for default positioning of the objects in relation to each other are disclosed.

Thus if in Gadh one wishes to show a lamp on top of a table one selects the lamp and drags it to the specifically desired position on the table top. By contrast in a system utilizing the present embodiments one selects the lamp, indicates the table as a related object and the system automatically uses a default docking position. Thus the system knows automatically where to place the lamp. Gadh does disclose an alignment operation as a means to relocate elements in addition to manual placement. However, this operation positioning is limited to positions which involve alignment with the edges of the associated virtual object. This operation does not constitute a default docking position but rather a method to position objects in relation to each other by means of orders in a given natural language. Furthermore it is limited to the positions which involve alignment with the edges of the object positioned thereat whereas the default docking taught in the embodiment of the present invention is flexible and involves any possible positioning of an object in relation to a second object.

This novel idea introduced in this invention offers flexibility in the automatic positioning of one object with another object according to a relating object and relating object type. This idea is especially significant when implemented in various industrial design processes which utilize computer graphics applications. This idea makes these processes much easier and more automated. Now, one can position a lamp on a table merely by selecting the lamp, calling up the relationship menu and selecting the table, because the system already knows how a lamp fits on a table.

Furthermore you can now define new objects, say a vase, and if it is a decendent of the same object type as the lamp, it can automatically be positioned on the table in the same way.

The difference between the present invention and Gadh, discussed above, is expressed in each of the independent claims as amended above.

Thus claim 1 defines a virtual object having at least one docking location defined within its internal coordinate system, said docking position being defined for at least one of another object and another object type as a default location when said another object is brought into association with said virtual object.

Such default location positioning when said another object is brought into association with said virtual object is neither shown nor suggested by Gadh. All that Gadh shows is positions which involve alignment with the edges of the virtual object.

Claim 14 defines a virtual environment for user interaction, comprising at least a first virtual object and a second virtual object and at least a relationship between them, with said relationship defaulted according to object and object type.

Gadh fails to disclose such a defaulted relationship.

Claim 15 defines a three dimensional virtual environemet comprising at least one three dimensional virtual object and having a series of potential relationships of said virtual object with a relating virtual object and the defaulting of relationship between one virtual object and another virtual object according to relating object and relating other object type.

Gadh fails to disclose such a defaulted relationship.

Claim 46 defines, within a virtual environment, a virtual object having an associated menu of available interactions with other objects, which has dynamically changeable states, the defined menu is changeable dynamically in accordance with

changes of available interactions consequent upon changes in state and the position of the virtual object and another object thereat is defaulted according to the interaction selected, the object and the object type.

Gadh fails to disclose such a defaulted relationship.

The remaining claims mentioned in this section of the Office Action are believed to be allowable as being dependent on an allowable main claim. No new matter is added by the present amendments.

### ***Claim Rejections – 35 USC 103***

In this section of the official action, Claims 16 – 24, 27-39, and 42 were rejected under 35 USC 103(a) as being unpatentable over Gadh U.S. Patent 6,629,065. and Chitambaram U.S. Patent Publication number 2001/0045949 A1.

Favorable reconsideration of this rejection in view of the above amendments is respectfully requested since, as will be shown below the combination of Gadh and Chitambaram fails to teach the flexible automatic defaulting of relationships taught in this invention.

Gadh is as discussed above and Chitambaram that claims methods for navigating a map on a personal digital assistant (PDA) using a graphical user interface does teach a tooltip , and the combination with Gadh may teach three dimensional positioning as well. However, the combination fails to teach an automatic defaulting of relationships between two virtual objects which is flexible and is not limited to positions which involve one object alignment with another objects edges.

Claim 39 is rejected over Gadh in light of Chitambaram. Claim 39 defines a method for moving a first virtual object from a first position to a selected second

position associated with a second virtual object, within a virtual environment, said positioning defaulted according to first object and first object type.

However neither Gadh nor Chitambaran shows or suggests such defaulting.

Both Gadh and Chitambaram are discussed above.

Claim 43 describes a method for constructing a menu of available and permitted user interactions with a first object having at least one user definable relationship within a virtual environment which supports the default relative positioning between two virtual objects.

Neither Gadh nor Chitambaran shows or suggests such defaulting. Both Gadh and Chitambaram are discussed above.

The remaining claims mentioned in this section of the Office Action are believed to be allowable as being dependent on an allowable main claim.

No new matter is added by the present amendments.

All of the matters raised by the Examiner have been dealt with and are believed to have been overcome. In view of the foregoing, it is respectfully submitted that all the claims now pending in the application are allowable over the cited reference. An early Notice of Allowance is therefore respectfully requested.

Respectfully submitted,



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